

U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,275,317 to Doerr et al., hereinafter "Doerr". Applicants respectfully traverse this rejection.

Independent claim 1 provides a mounting arrangement for at least one optical component in a planar lightwave circuit. The arrangement includes a substrate, an input optical fiber associated with the substrate, and an output optical waveguide in a given set of planar layers of the substrate, where the at least one optical component is mountable on the substrate to transmit optical radiation from said input optical fiber to said output optical waveguide. The arrangement further includes a length of optical waveguide or a length of optical fiber. The length of optical waveguide is on the substrate in the same planar layers of said output optical waveguide, and the length of optical waveguide is interposed between the input optical fiber and the at least one optical component so that the at least one optical component can be interposed between the length of optical waveguide and the output optical waveguide. The length of optical fiber is associated to the substrate between the at least one optical component and the output optical waveguide so that the at least one optical component can be interposed between the input optical fiber and the length of optical fiber.

Doerr discloses a hybrid integrated optical transmitter 100, as shown in Figures 1 and 2 (col. 4, line 64). Transmitter 100 includes a laser array 105, an optical combiner 110 and an optical amplifier/modulator 115 supported on and affixed to a platform 120 (col. 4, lines 64-67). Optical combiner 110 is fabricated with six input waveguides W_1 - W_6 and combines the wavelengths from each of waveguides W_1 - W_6 and provides a single output W_0 (col. 6, lines 20-26). A lensed fiber 125 may be used to couple radiation from amplifier/modulator 115 (col. 5, lines 4-5). Lensed fiber 125 is positioned and aligned using ferrules 130 and 135 (col. 5, lines 5-8). An optical isolator 140 is interposed between optical combiner 110 and optical amplifier/modulator 115 (col. 5, lines 17-18).

Doerr discloses a combiner 110 for providing a single radiation input, but fails to disclose a length of optical waveguide between combiner 110 and one or more optical

components. Therefore, Doerr does not disclose “a length of optical waveguide on said substrate in the same planar layers of said output optical waveguide, said length of optical waveguide being interposed between said input optical fiber and said at least one optical component so that said at least one optical component can be interposed between said length of optical waveguide and said output optical waveguide” as recited in claim 1.

Furthermore, Doerr discloses a fiber 125 for the egress of radiation, but does not disclose an additional length of fiber that is distinct from fiber 125. Doerr further does not disclose a distinct length of optical fiber located between one or more optical components and fiber 125. Therefore, Doerr does not disclose “a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide so that said at least one optical component can be interposed between said input optical fiber and said length of optical fiber” as recited in claim 1.

Therefore, because Doerr does not disclose “a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component” or “a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide”, as recited in claim 1, Doerr does not disclose or suggest the elements of claim 1. Thus, claim 1 is not anticipated by Doerr.

Claims 2, 6 and 9-14 depend from claim 1. For at least the reasoning provided in support of claim 1, claims 2, 6 and 9-14 are also not anticipated by Doerr.

For the reasons set forth above, it is submitted that the rejection of claims 1, 2, 6, and 9-14 under 35 U.S.C. 102(b) as anticipated by Doerr is overcome. Applicants respectfully request that the rejection of claims 1, 2, 6, and 9-14 be withdrawn.

On page 3 of the Office Action, claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr in view of U.S. Patent No. 6,081,635 to Hehmann,

hereinafter "Hehmann". Applicants respectfully traverse this rejection.

Claims 3 and 4 depend from claim 1. As provided in the discussion of claim 1, Doerr does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1.

Hehmann discloses an optical isolator constructed on a support provided with a recess (col. 2, lines 43-46). Two wedge-shaped plates and a Faraday rotator are inserted in the recess (col. 2, lines 55-57). Optical fibers are inserted into v-shaped grooves on each side of the optical isolator, and two spherical lenses are positioned directly in front of the ends of the two optical fibers (col. 3, lines 20-26).

Hehmann discloses an optical isolator having optical fibers on each side of the isolator, but does not disclose a length of optical fiber or a length of optical waveguide positioned between either of the optical fibers and one or more optical components. Therefore, Hehmann does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1. Thus, Hehmann does not disclose or suggest the elements of claim 1.

Therefore, Doerr and Hehmann, whether considered independently or in combination with one another, fail to disclose or suggest the elements of claim 1. Thus, claim 1 is patentable over the cited combination of Doerr and Hehmann.

Claims 3 and 4 depend from claim 1. Thus claim 1, and claims 3 and 4 for at least the reasoning provided in support of claim 1, are all patentable over the cited combination of Doerr and Hehmann.

For the reasons set forth above, it is submitted that the rejection of claims 3 and 4 under 35 U.S.C. 103(a) as being unpatentable over Doerr in view of Hehmann is overcome. Applicants respectfully request that the rejection of claims 3 and 4 be withdrawn.

On page 4 of the Office Action, claim 5 is rejected under 103(a) as being unpatentable over Doerr in view of U.S. Patent No. 5,999,303 to Drake, hereinafter "Drake". Applicants respectfully traverse this rejection.

Claim 5 depends from claim 1. As provided in the discussion of claim 1, Doerr does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1.

Drake discloses an optical head utilizing a micro-machined element combined with a light source and a lens to write and read data onto a storage disk. Light is transmitted from an optical fiber to the optical head and is affected by the micro-machined element such as a steerable micro-machined mirror (col. 3, lines 3-6).

Drake discloses optical components assembled on a substrate, but does not disclose a length of optical waveguide positioned between an input optical fiber and one or more optical components. Drake also does not disclose a length of optical fiber positioned between one or more optical components and an output optical waveguide. Therefore, Drake does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1. Thus, Drake does not disclose or suggest the elements of claim 1.

Therefore, Doerr and Drake, whether considered independently or in combination

with one another, fail to disclose or suggest the elements of claim 1. Thus, claim 1 is patentable over the cited combination of Doerr and Drake.

Claim 5 depends from claim 1. Thus claim 1, and claim 5 for at least the reasoning provided in support of claim 1, are patentable over the cited combination of Doerr and Drake.

For the reasons set forth above, it is submitted that the rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Doerr in view of Drake is overcome. Applicants respectfully request that the rejection of claim 5 be withdrawn.

On page 4 of the Office Action, claim 6 is rejected under 103(a) as being unpatentable over Doerr. Applicants respectfully traverse this rejection.

Claim 6 depends from claim 1. As provided in the discussion of claim 1, Doerr does not disclose or suggest the elements of claim 1. Therefore, claim 1 is patentable over Doerr.

Claim 6 depends from claim 1. Thus claim 1, and claim 6 for at least the reasons provided in support of claim 1, are patentable over Doerr.

On page 5 of the Office Action, claims 7 and 8 are rejected under 103(a) as being unpatentable over Doerr in view of U.S. Patent No. 5,611,006 to Tabuchi, hereinafter "Tabuchi". Applicants respectfully traverse this rejection.

Claims 7 and 8 depend from claim 1. As provided in the discussion of claim 1, Doerr does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1.

Tabuchi discloses an integrated optical device having optical components assembled on a substrate (col. 7, lines 3-5). In one embodiment, a cube type half mirror, a spherical lens and an optical fiber are disposed on the substrate (col. 7, lines 14-16).

Tabuchi discloses optical components assembled on a substrate, but does not disclose a length of optical waveguide positioned between an input optical fiber and one or more optical components. Tabuchi also does not disclose a length of optical fiber positioned between one or more optical components and an output optical fiber. Therefore, Tabuchi does not disclose "a length of optical waveguide . . . being interposed between said input optical fiber and said at least one optical component" or "a length of optical fiber associated to said substrate between said at least one optical component and said output optical waveguide", as recited in claim 1. Thus, Tabuchi does not disclose or suggest the elements of claim 1.

Therefore, Doerr and Tabuchi, whether considered independently or in combination with one another, fail to disclose or suggest the elements of claim 1. Thus, claim 1 is patentable over the cited combination of Doerr and Tabuchi.

Claims 7 and 8 depend from claim 1. Thus claim 1, and claims 7 and 8 for at least the reasoning provided in support of claim 1, are all patentable over the cited combination of Doerr and Tabuchi.

For the reasons set forth above, it is submitted that the rejection of claims 7 and 8 under 35 U.S.C. 103(a) as being unpatentable over Doerr in view of Tabuchi is overcome. Applicants respectfully request that the rejection of claims 7 and 8 be withdrawn.

An indication of the allowability of all pending claims by issuance of a Notice of Allowability is earnestly solicited.

Respectfully submitted,

Date: 12-28-04



Paul D. Greeley
Reg. No. 31,019
Attorney for Applicants
Ohlandt, Greeley, Ruggiero & Perle, LLP
One Landmark Square, 10th Floor
Stamford, CT 06901-2682
Tel: (203) 327-4500
Fax: (203) 327-6401